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(4)

ON

THE RESULTS OF OPERATIONS

FOR

CANCER OF THE LARYNX

WITH AN ANALYSIS OF 37 CASES

BY

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MR. BUTLIN'S OPERATIONS FOR CANCER OF THE LARYNX

Twenty years ago operations for cancer of the larynx were in bad repute. The operation which was generally practised was complete removal of the larynx. The mortality due to the operation was very heavy, and there was scarcely a single patient who had survived and remained well for three years after it. The condition of those patients who recovered was, too, not such as to encourage operators or patients.

From a study of the pathology of carcinoma of the larynx in the early eighties, I came to the conclusion that Krishaber's division of the disease into intrinsic and extrinsic had much to recommend it, and that the attention he had drawn to the great difference in the course of the disease according to whether it originated in the intrinsic or extrinsic parts of the larynx might be of practical value. I then suggested that, in the immediate future, operations for cancer of the larynx should be practised only for "intrinsic carcinoma, which is still limited to the larynx." My suggestion was approved by my friend, Sir Felix Semon, who placed the first case of the kind which came under his care in the hands of Professor Hahn for operation. Half the larynx was removed in that case. It was not until the year 1886, that Semon brought a patient to me for operation. In that case I also removed half the larynx. The patient recovered from the operation, but died of recurrence about two years later.

Further study of the course of the disease led me to believe that it is not necessary to remove the framework of the larynx for intrinsic carcinoma of limited extent, but that the disease may be successfully removed by opening the larynx from the front, and cutting the cancer out very freely with the surrounding healthy structures. The first operations of this kind I performed with the assistance of Sir Felix Semon, but, after the first 10 operations for cancer on 9 patients, each of us operated only on his own patients, although we have, up to the present time, been in the habit of consulting with each other on the diagnosis and question of operation of the cases which have been under our individual care.

In the first Table I have set down all the cases in which I have operated for cancer of the larynx.

Table I.

Total Results.

41 operations were performed on 37 patients.

Operations.		
31	Thyrotomy	28 patients.
1	Infra-hyoid Laryngotomy ...	1 patient.
2	½ Laryngectomy	2 patients.
7	Laryngectomy	6 ,,
41	Totals ...	37 ,,

Died of the operation...	5
Died of recurrence	7
Died of intra-thoracic disease, probably cancerous glands, within 2 years	1
Died of cancer of tongue	1
Lost sight of after operation	1
Alive (after operation for recurrence)	2
Well, less than 3 years after operation	3
Died of other disease after 3 years	2
Well after 3 years	15
Total	37

In two of the cases in the above Table the diagnosis was not proved by microscopical examination, but it was so in all the other cases. Of these two patients, one

was lost sight of after the operation, the other died of old age more than three years later.

It will be noticed that the Table tells that 7 laryngectomies were performed on 6 patients. This apparent impossibility is explained by the fact that one of the patients had previously been subjected to thyrotomy at my hands. As a patient he is counted among the thyrotomies, and is one of the two patients who is alive after operation for recurrence, but I regret to say he is now suffering from recurrence in the glands.

I have divided the results of my operations into two groups, those which occurred before the end of the year 1890, and those which have occurred since that time up to date. For the following reasons. I operated, in spite of my own recommendation in favour of limiting operations to intrinsic carcinoma, on three cases of extrinsic carcinoma during the first years, and these cases all did badly, although the disease was of limited extent. Out of the 9 patients on whom I performed 10 operations before the end of 1890 no fewer than 3 died of the operation; and from a study of the difficulties and dangers of the operation I devised a method of after-treatment which, with some modifications, has formed the foundation of the after-treatment of these cases in England. It had been the custom to retain Hahn's tube for many hours after the operation, and it became sodden with foul discharge and blood. I removed it as soon as the operation was completed. I placed the patient on his side in bed without a pillow, and with the head inclined to the bed, so that discharges tended to run out of the larynx into the mouth instead of into the air-passages. And after feeding him for the first day or two per rectum, I taught him to swallow, leaning over the edge of the bed, with the head low down, so that any fluid which passed into the larynx escaped through the open wound, and did not run down the trachea. By these means the dangers of septic pneumonia and Schluck-pneumonie were reduced to a minimum.

Table II.

Operations before the Year 1890.

Operations.		
8	Thyrotomy	7 patients.
1	Infra-hyoid Laryngotomy ...	1 patient.
1	½ Laryngectomy	1 „
10	Totals	9 patients.

Died of the operation...	3
Died of recurrence	3
Died of other disease 5 years later	1
Well after 3 years	2
Total	9

Two of the patients on whom thyrotomy was performed died, one of sepsis, the other of septic pneumonia. The patient on whom infra-hyoid laryngotomy was performed died of acute mania several days after the operation. The two patients who remained well were followed for about four years after the operation, but have been since lost sight of.

Table III.

Operations after the Year 1890.

Operations.		
23	Thyrotomy	21 patients.
1	½ Laryngectomy	1 patient.
7	Laryngectomy	6 patients.
31 operations on	... ...	28 „

Died of the operation (1 thyrotomy, 1 laryngectomy)	2
Died of recurrence	4
Died of intra-thoracic disease, probably cancerous glands, within 2 years	1
Died of cancer of tongue	1
Lost sight of after operation	1
Alive after operation for recurrence	2
Well within 3 years	3
Died of other disease after 3 years	1
Well after 3 years	13
Total	28

It will be seen that there were two deaths in 31 operations on 28 patients, a marvellous improvement on the earlier result of 3 deaths in 10 operations on 9 patients. This improvement is to be attributed to the change which was effected in the after-treatment of the cases. One of the two patients who died was an old man, more than 70 years of age, who would not submit to the orders regarding posture and feeding. He persisted in sitting upright in bed, and died of septic pneumonia four or five days after the operation. The other patient was suffering from very extensive affection of the larynx and widespread cancerous glands. The glands were first removed, and, when he was sufficiently recovered from that operation, the larynx and the surrounding muscles which were infiltrated by the cancer were taken out. The trachea could not be brought up to be attached to the skin. He died thirty-five days after the second operation of a sharp attack of double pneumonia of two days' duration, which we attributed to influenza, which was then prevalent. But, as he was still in the nursing home, and was not able to feed without a tube, I suspect that the real cause of the pneumonia was sepsis.

The cancer of the tongue in the Table was two or three inches from the opening of the larynx, and occurred more than a year after the operation of thyrotomy.

The two patients who are said to be alive after operation for recurrence were both subjected to laryngectomy for the recurrent disease. I did not perform the operation on one of them, and have not been informed whether he still lives and continues well. In the other patient, recurrence first appeared four or five years after the operation of thyrotomy. I removed the larynx. Some months later, the glands on one side became cancerous and I removed them widely. But, he is at the present time suffering from recurrence in the glands.

The successful cases number 14, in one of which death occurred more than three years after the operation from

chronic bronchitis and old age. The duration of cure in the remaining 13 cases is as follows :

3 years	... ...	2 cases.
4 ,,	... ...	4 ,,
8 ,,	... ...	3 ,,
10 ,,	... ...	1 ,,
11 ,,	... ...	1 ,,
12 ,,	... ...	1 ,,
13 ,,	... ...	1 ,,
	Total ...	13 ,,

Undoubtedly, a great part of the success shown in these results is due to early diagnosis of the disease, and that is largely due to the work of Sir Felix Semon. The cases were, for the most part, very carefully selected for operation, and differ in that respect in an important manner from the cases of cancer of the tongue on which I have operated. Every case of cancer of the tongue which it seemed possible to relieve by operation was treated, if it was thought that the patient might be benefitted, even for a time. But, the results of operations for the removal of cancer of the larynx had been so bad that we were forced to make a careful selection of our cases for operation in the hope of proving—what has been fully borne out—that cancer of the larynx could be removed with comparatively little danger and with a reasonable prospect of success in suitable cases.

It will be seen that the proportion of successful cases in the third Table is very large. Indeed, it is more than 50 per cent. The total number of successful cases is 14, and the total number of patients treated is 28, minus 4. For, in taking the percentage, the patient who was lost sight of after the operation, and the three patients who are free from disease within three years, must be deducted from the sum total.

I would further point out that the glands were not removed in any of the cases of thyrotomy.

Owing to the very conservative spirit in which I ap-

proached operations for cancer of the larynx for many years, and for which the reason has been given, I did not perform complete laryngectomy for cancer until three years ago. In the last three years I have performed the operation seven times, and the results are set down in the following table.

TABLE IV.

OF 7 COMPLETE LARYNGECTOMIES.

Died of the Operation - -	I
Died of mediastinal tumour(?)glands	I
Died of recurr.in cervical glands -	I
Alive with local recurrence - -	I
Well within a year after operation -	I
Died of apoplexy without recurrence 2½ yrs after operation - -	I
Well more than 3 yrs after operation -	I
Total - -	7

The death from the operation has already been described. I found it impossible to bring the trachea up and fasten it to the skin after Solis Cohen's method. This method was employed in all the other cases, and I have no doubt that it lessens the danger of the operation in a very marked degree. The air-passages are cut off from the mouth at the time of the operation, and there is even less fear of Schluck-pneumonie than there is in cases of thyrotomy. In five of the cases the glands were removed by a separate operation, in one of the five not until several months had elapsed and they were obviously cancerous. Inoperable recurrence has already taken place in that case. They were cancerous and adherent in three of the other cases in which they were removed. One of these patients died of what was thought to be cancerous affection of the glands in the mediastinum, a second died after removal of the larynx, the third has only recently recovered from the operation.

In the most successful case, and in a second case which bids fair to be successful, the glands were not removed,

for the disease was limited to the interior of the larynx and thoroughly enclosed within the framework. I do not venture to draw any conclusions from these few cases of laryngectomy. I began to perform the operation on account of Gluck's success, and of the excellent modification due to Solis Cohen. I wish I had begun to perform it earlier. I am sure that several of the cases on which I performed thyrotomy were much better fitted for laryngectomy, and I cannot help thinking I might have saved one or two of the patients in whom recurrence took place if I had then removed the larynx. I think the glands ought to be removed in every case in which there is extensive carcinoma of the larynx, even if it be intrinsic, unless the disease is limited to the middle zone of the interior of the larynx. Even in these cases it would probably be a wise precaution to remove the glands. I have never removed the glands and the larynx at one sitting.

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